UNITED STATES PATENT AND TRADEMARK OFFICE

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10/510,011	09/29/2004	Shigeru Sugaya		4474

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EXAMINER
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ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/510,011	SUGAYA ET AL.
	Examiner	Art Unit	
	TRI H. PHAN	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 May 2008*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8,17-26,35-44,53 and 54* is/are pending in the application.
   4a) Of the above claim(s) *9-16,27-34,45-52 and 55* is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-8,17-26,35-44,53 and 54* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☒ All   b)☐ Some * c)☐ None of:
   1.☒ Certified copies of the priority documents have been received.
   2.☐ Certified copies of the priority documents have been received in Application No. _____.
   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
   Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

DETAILED ACTION

Response to Amendment/Arguments

1.　　This office action is in response to the Amendment filed on May 2nd, 2008.

Claims 9-16, 27-34, 45-52 and 55 are now canceled. Claims 1-8, 17-26, 35-44 and 53-

54 are now pending in the application.

Priority

2.　　Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which

papers have been placed of record in the file.

Specification

3.　　The lengthy specification has not been checked to the extent necessary to

determine the presence of all possible minor errors.　Applicant's cooperation is

requested in correcting any errors of which applicant may become aware in the

specification.

Claim Rejections - 35 USC § 112

4.　　The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly
claiming the subject matter which the applicant regards as his invention.

5.   Claims 53-54 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Independent claim 53 is directed toward "A processor having computer program

instruction...for carrying out a method of performing a wireless communication operation

…, the method comprising …". This creates confusion because it is not clear whether

applicant intending to encompass the claimed invention toward an apparatus (i.e. the

processor) or a process (i.e. the method).

Claim Rejections - 35 USC § 102

6.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States
> only if the international application designated the United States and was published under Article 21(2)
> of such treaty in the English language.

7.   Claims 1-8, 17-26, 35-44 and 53-54 are rejected under 35 U.S.C. 102(e) as

being anticipated by **Cansever, Derya H.** (U.S.6,678,252; hereinafter refer as

'**Cansever**').

- In regard to claim 1, **Cansever** discloses *a wireless communication system that forms a network in an autonomous distributed manner without specific controlling station* (for example see figs. 1-2; wherein the wireless mobile nodes form a decentralized wireless mobile ad hoc network 'MANET' as disclosed in col. 1, lines 21-24; col. 4, lines 15-21), *the wireless communication system comprises*

    a transmitting-side or receiving-side communication apparatus (for example see nodes i, j and k in fig. 2), *which attempts to perform communication with a guaranteed bandwidth* ('maximum available bandwidth MAB'; for example see col. 3, lines 15-20; col. 4, lines 15-17, 30-36), *issues a notification indicating a setting of a bandwidth guaranteed period in a communication range* (for example see col. 6, lines 8-29; wherein each node allocates number of time slots in the cycle for broadcasting its 'air time', e.g. *"notification indicating a setting of a bandwidth guaranteed period"*, to neighbors' nodes as disclosed in col. 8, lines 24-29, 52-57) *and that another communication apparatus that receives the notification does not perform a communication operation in the bandwidth guaranteed period* (for example see col. 8, lines 24-29, 52-57; wherein nodes are aware of their neighbor's traffic and allocate its air time among the time slots of each cycle with neighbors, e.g. *"not perform a communication operation in the bandwidth guaranteed period"*).

- Regarding claims 2 and 20, **Cansever** further discloses, *wherein the transmitting-side or receiving-side communication apparatus describes information regarding the bandwidth guaranteed period in beacon information transmitted for each*

predetermined frame period (for example see col. 5, lines 43-45; wherein the

broadcasting maximum unused bandwidth 'MUB', e.g. "*beacon information*", is used for

calculating the maximum available bandwidth 'MAB' of the node and neighboring nodes

as disclosed in col. 5, lines 10-14, in determining the air time's time slots in each cycle

as disclosed in col. 6, lines 8-29).

- In regard to claims 3, 22 and 40, **Cansever** further discloses, *wherein the*

receiving-side communication apparatus creates timing utilized for a bandwidth-

guaranteed communication (wherein the allocated time slots for air time are calculated

from 'MAB' as disclosed in col. 6, lines 17-29), *in a pseudo manner, that has a same*

state as timing of transmitting a beacon of its own (for example see col. 5, lines 10-14,

52-65; wherein the MAB is calculated from the MUB of the node and neighboring nodes

as disclosed in col. 5, lines 10-14) *and notifies the timing utilized for the bandwidth-*

guaranteed communication (air time's time slots; for example see col. 5, lines 58-60;

col. 8, lines 24-29, 52-57).

- Regarding claims 4, 19 and 37, **Cansever** further discloses, *wherein each*

communication apparatus performs random access based on a collision avoidance

operation ('CDMA-CD') *that starts transmission after detecting that no transmission is*

performed from another communication apparatus (for example see steps 304-306 in

fig. 3; col. 6, lines 2-10, 58-65; wherein the broadcasting/receiving MUBs take place

during the random access period, before calculating MAB, e.g. "*in a period in which no
communication apparatus has set a guaranteed bandwidth*").

        - In regard to claims 5, 23 and 41, **Cansever** further discloses, *wherein the
transmitting-side or receiving-side communication apparatus sets a reservation period*
('air time') *in its own frame period* (for example see col. 7, lines 4-7; wherein the air time
is allocated among time slots of the cycle as disclosed in col. 6, lines 11-19) *and
performs communication with a guaranteed bandwidth by utilizing the reservation period*
(for example see col. 7, lines 7-12, 41-58).

        - Regarding claims 6, 24 and 42, **Cansever** further discloses, *wherein each
communication apparatus collects beacon information* ('MUB') *from neighboring
communication apparatuses* (for example see steps 304-306 in fig. 3; col. 6, lines 58-
63), *obtains information regarding bandwidth guaranteed periods* (for example see step
308 in fig. 3; col. 6, line 65 through col. 7, line 12; wherein the air time's time slots, e.g.
"*bandwidth guaranteed periods*", is allocated based on the calculated MAB as disclosed
in col. 6, lines 17-29), *and does not set, as its own bandwidth guaranteed period* ('air
time of a node'), *a period that is set as bandwidth guaranteed periods by the
neighboring communication apparatuses* (for example see col. 6, lines 19-29; wherein
the air time of a node is allocated in awareness of the neighboring's air time, e.g.
"*period that is set as bandwidth guaranteed periods by the neighboring communication
apparatuses*" as disclosed in col. 8, lines 24-29, 52-57).

- In regard to claims 7-8, 25-26, 38 and 43-44, **Cansever** further discloses, *wherein the transmitting-side or receiving-side communication apparatus collects beacon information* ('MUB') *from neighboring communication apparatuses* (for example see steps 304-306 in fig. 3; col. 6, lines 58-63), *obtains information regarding bandwidth guaranteed periods* (for example see step 308 in fig. 3; col. 6, line 65 through col. 7, line 12; wherein the air time's time slots, e.g. "*bandwidth guaranteed periods*", is allocated based on the calculated MAB as disclosed in col. 6, lines 17-29), *and sets, as its own bandwidth guaranteed period* ('air time of a node'), *a period that is not set as bandwidth guaranteed periods by the neighboring communication apparatuses* (for example see col. 6, lines 19-29; wherein the air time of a node is allocated in awareness of the neighboring's air time, which is based on the MAB of the node and MAB of neighboring nodes, e.g. "*period that is not set as bandwidth guaranteed periods by the neighboring communication apparatuses*").

- Regarding claim 17, **Cansever** discloses *a wireless communication apparatus* (for example see wireless mobile node i in fig. 5) *that performs a wireless communication operation in an autonomous distributed manner without specific controlling station* (for example see figs. 1-2; wherein the wireless mobile nodes form a decentralized wireless mobile ad hoc network 'MANET' as disclosed in col. 1, lines 21-24; col. 4, lines 15-21), *the wireless communication apparatus comprises*

communicating means (transceiver 512 of node i in fig. 5; for example see col. 8, lines 5-10) for transmitting/receiving a wireless signal within its own communication range (for example see fig. 2; wherein node I communicates with neighboring nodes within transmission range, e.g. cells 202, 204);

bandwidth-guaranteed-period setting means (program in memory 502 of node i in fig. 5) for requesting, within its own communication range, setting of a bandwidth guaranteed period in which a bandwidth is guaranteed for said wireless communication apparatus (for example see col. 8, lines 11-15; wherein the program is executed for determining the MUB, calculating the MAB of the node, and allocating time slots in the cycle for broadcasting its 'air time', e.g. "setting of a bandwidth guaranteed period", as disclosed in col. 6, lines 17-29; or for requesting bandwidth for a flow as disclosed in col. 7, lines 41-58); and

communication controlling means ('processor 505' of node i in fig. 5; for example see col. 8, lines 15-16) for executing a bandwidth-guaranteed communication in response to an arrival of its own bandwidth guaranteed period (for example see col. 6, lines 17-29; wherein the node i transmits data through its air time, e.g. "bandwidth guaranteed period").

- In regard to claims 18, 36 and 54, **Cansever** further discloses means for storing a bandwidth-guaranteed-period setting notification received from another wireless communication apparatus ('storage device 506' of node i in fig. 5; for example see col.

8, lines 16-18; wherein all data related to program, e.g. MUB,MAB, air time, are stored

in the storage device),

   wherein the bandwidth-guaranteed-period setting means sets its own bandwidth

guaranteed period while avoiding a bandwidth guaranteed period that is already set by

the another wireless communication apparatus (wherein the node allocates its air time,

e.g. "*sets its own bandwidth guaranteed period*", based on the MAB of neighboring

nodes as disclosed in col. 6, lines 17-29), *and the communication controlling means*

does not perform a communication operation in the bandwidth guaranteed period that is

set by the another communication apparatus (for example see col. 8, lines 24-29, 52-57;

wherein node is aware of its neighbors' traffic and air time in allocating its air time's time

slots).

   - Regarding claims 21 and 39, **Cansever** further discloses, *wherein the*

bandwidth-guaranteed-period setting means sets its own bandwidth guaranteed period

by avoiding the reception timing of a beacon (for example see col. 8, lines 24-29, 52-57;

wherein the allocating time slot for air time of a node is aware of the neighbors' traffic

and air time).

   - In regard to claim 35, **Cansever** discloses *a wireless communication method for*

performing a wireless communication operation in an autonomous distributed manner

without specific controlling station (for example see fig. 2; wherein the wireless mobile

nodes form a decentralized wireless mobile ad hoc network 'MANET' as disclosed in

col. 1, lines 21-24; col. 4, lines 15-21), *the wireless communication method comprises*

issuing, within its own communication range, a notification indicating a setting of

a bandwidth guaranteed period in which a bandwidth is guaranteed (for example see

col. 6, lines 8-29; wherein each node allocates number of time slots in the cycle for

broadcasting its 'air time', e.g. "*notification indicating a setting of a bandwidth*

guaranteed period", to neighbors' nodes as disclosed in col. 8, lines 24-29, 52-57); *and*

executing a bandwidth-guaranteed communication in response to an arrival of its

own bandwidth guaranteed period (for example see col. 8, lines 24-29, 52-57; wherein

the node allocates its air time, e.g. "*its own bandwidth guaranteed period*", among the

time slots of each cycle with neighbor nodes and broadcast its data by being aware of

their neighbor's traffic and air time).

- Regarding claim 53, **Cansever** discloses *a processor* ('processor 505' of node i

in fig. 5; for example see col. 8, lines 15-16) *having computer program instruction*

described in a computer-readable format (program in memory 502 of node i in fig. 5) *for*

carrying out a method of performing a wireless communication operation in an

autonomous distributed manner without a specific controlling station (for example see

figs. 2, 3-4; wherein the wireless mobile nodes form a decentralized wireless mobile ad

hoc network 'MANET' as disclosed in col. 1, lines 21-24; col. 4, lines 15-21), *the method*

comprises

notifying, within its own communication range, of a setting of a bandwidth

guaranteed period in which a bandwidth is guaranteed (for example see col. 6, lines 8-

29; wherein each node allocates number of time slots in the cycle for broadcasting its

'air time', e.g. *"notifying of a setting of a bandwidth guaranteed period in which a*

bandwidth is guaranteed", to neighbors' nodes as disclosed in col. 8, lines 24-29, 52-

57)*; and*

executing a bandwidth-guaranteed communication in response to an arrival of its

own bandwidth guaranteed period (for example see col. 6, lines 17-29; wherein the

node i transmits data through its air time, e.g. *"bandwidth guaranteed period"*).

Conclusion

8.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

     Jones et al. (U.S.6,490,256), **Shvodian, William M.** (U.S.7,110,380), **Sugaya et**

al. (U.S.7,233,804) and **Gubbi, Rajugopal R.** ("Isochronous services in home

multimedia networks", IEEE 1999 0-7803-5582-2/99, pages 534 - 539) are all cited to

show improving devices and methods for streaming data in home multimedia networks

architectures, which are considered pertinent to the claimed invention.

     Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Tri H. Phan, whose telephone number is (571) 272-

3074. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on (571) 272-3179.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office, whose telephone number is (571) 272-2600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Tri H. Phan/
Primary Examiner, Art Unit 2616

August 13, 2008